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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,554	10/23/2000	Richard O. Moore JR.	G-0004	9964

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EXAMINER
PREISCH, NADINE G

ART UNIT	PAPER NUMBER
1764	4

DATE MAILED: 12/10/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Offic Action Summary	Application No. 09/694,554	Applicant(s) MOORE, RICHARD O.	
	Examiner Nadine Preisch	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The specification does not disclose:

1) The mono-olefin percentages in claims 8 and 9.

2) The "complete" temperature ranges in claims 19, 29 and 30.

3) An amount of a second hydrogen containing gas of 750 SCFB as in claim 28 (note that 750 SCFB is referred to in the prior art section but not in the disclosure of applicants' claimed invention).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6, and 12-14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, applicants' refer to a feed "derived from" a Fischer- Troposch process. The terminology of "derived from" renders the claim indefinite. For instance, does "derived from" mean separated from, produced by, etc.

In claim 12, the phrase "the hydrogen-containing gas" lacks proper antecedent basis in the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 6, 11-15 and 19-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smith et al.(4,544,792).

Applicants are claiming several processes for treating hydrocarbons containing oxygenates and olefins. The processes involve the addition of hydrogen to the feed and heating. Applicants' claimed processes involve the reduction of the formation of heavy molecular weight products.

The reference of Smith et al.(4,544,792) discloses a process for treating a Fischer-Tropsch product containing oxygenates (alcohols) and mono-olefins. See column 1, lines 50-60 and column 6, lines 5-12. The reference teaches that the oxygenates boil below 325°C. See abstract, lines 5-7. The Smith et al.(4,544,792) process prevents or inhibits coke deposition during conversion. See column 2, lines 10-15. The disclosed process comprises adding hydrogen in small amounts to the feed (1mol% to less than 50 mol%). See column 2, lines 55-65. The feedstock is heated to a temperature of 230-325°C in the reactor. See column 4, lines 27-30.

The reference of Smith et al.(4,544,792) succeeds at teaching a process for converting a hydrocarbon stream including oxygenates and hydrocarbon unsaturates with steps corresponding to applicants' hydrogen addition and heating. In addition, the reference's disclosure of less than 50 mol% hydrogen overlaps applicants' claimed hydrogen amounts.

Applicants' "reduction in the formation of heavy molecular weight products during heating" would inherently be accomplished because the same feed and process steps are disclosed. In addition, the disclosure of the prevention of coke deposition is an indication that a reduction in the formation of heavy molecular weight products has occurred.

Applicants' process is anticipated by the reference of Smith et al.(4,544,792) because it discloses essentially the same hydrogen contacting and heating steps.

Applicants' "reduction in the formation of heavy molecular weight products during heating" would have obviously be provided upon operating the Smith et al.(4,544,792) process.

Claim Rejections - 35 USC § 103

Claims 3, 4, 7-10 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.(4,544,792).

-See teachings of Smith et al.(4,544,792) above.

Several differences are noted between the reference of Smith et al.(4,544,792) and applicants' claimed invention. The reference is silent about the specific percentages of mono-olefins or oxygenates in the feed. The reference does not disclose all of applicants' claimed sources of hydrogen. In addition, the reference of Smith et al.(4,544,792) does not disclose the addition of a second portion of hydrogen to the heated feed/hydrogen mixture.

It would have been obvious to one of ordinary skill in the art to treat any low boiling point Fischer-Tropsch feed according to the process of Smith et al.(4,544,792), including a feed with the specific percentages of olefins and alcohols defined in applicants' dependent claims, because the reference does not limit the percentage of such components in the feed. Since the reference discloses the general conversion of such components, it would convert any percentage that may be present in the feed.

In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made that applicants' addition of a second portion of hydrogen to the heated hydrocarbon/hydrogen mixture followed by heating to reaction temperature does not distinguish over the applied art because in both cases hydrogen is contacted with a feed and heated. The repetition of hydrogen addition and heating does not distinguish over the applied art.

Prior Art of Record

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

The attached references disclose the treatment of Fischer-Troposch products with hydrogen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadine Preisch whose telephone number is 703-305-2667. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-5408 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

N.P.
December 9, 2001

NADINE PREISCH
ART UNIT 1764